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near the ends of the row. The rows were so placed on the surface of the body as to form bands transverse to the animal's chief axis. In any given band the rows constituting it alternate with those of the two adjacent bands. The rows of quills break the integument up into plate-like areas, which the author interprets, in accordance with the conclusions of Weber and of others, as the remains of scutes with which the ancestors of mammals are supposed to have been covered. Judging from the condition of the integument in the porcupine, these scutes were large and well developed dorsally and small and poorly formed ventrally. In the porcupine the woolly hair makes its appearance much later than the quills, and may be formed on the scute areas. Phylogenetically the quills represent the primitive hairs, and these are distributed in conformity to the primitive scute covering. The woolly hairs, on the other hand, are a much later acquisition, and are distributed without respect to the places once occupied by scutes. As the skin of the porcupine contains no sweat glands, the animal will probably be found to have a summer and a winter pelage as an adaptation to temperature changes.

Human Physiology.—The last addition to the series of Temple Primers is entitled *The Human Frame and the Laws of Health*,¹ and is a translation by F. W. Keeble from the German of Rebmann and Seiler. The first ninety-five pages are devoted to the more salient facts of human anatomy and physiology, and the remaining fifty to hygiene. The presentation is remarkable for its clearness and its general freedom from misstatements such as so frequently mar texts intended to be popular. Here and there slight slips are to be noticed: thus, on page 24 we are told that without the influence of the nerve the muscle cannot contract, and on page 30, in the description of the brain, we are informed that the third ventricle gives off three clefts, lateral ventricles, on either side. Further, on page 139, the distinction between smell and taste is inadequately made out, and the subject is left in the confused state in which it exists in the popular mind. Occasionally inapt expressions are met with, as when (p. 31) the cerebral hemispheres are said to be marked out into two *unequal halves* and (p. 99) ozone is described as a *condensed* form of oxygen. Even such small defects as these, however,

¹ Rebmann and Seiler. *The Human Frame and the Laws of Health*. Translated from the German by F. W. Keeble. 148 pp. The Temple Primers. London, Dent & Co.

are comparatively rare, for the book as a whole is a remarkably trustworthy condensation of the chief facts of human physiology and hygiene. P.

As to "Social Ascidians." — In a recent brief paper M. Maurice Caullery¹ adds one more to the numerous instances brought to light in recent years tending to obliterate the distinction between social and compound ascidians. The case now reported is likely to be noticed more than the others have been, in that it relates to the genus *Clavelina*, which is one of the ascidians most familiar to the general zoölogist, and is usually given in text-books as a type of the social ascidians.

In this genus the ascidiozoöids, it will be recalled, bud from a stolon, but remain entirely distinct from one another, excepting for their connection with the common stolon. In the species here described (there are two of them) the ascidiozoöids differ structurally in no way from a typical *Clavelina*; but, instead of being connected to the common stolon only, *they are fully imbedded in a common testicular mass also.*

It is obviously necessary, Caullery says, to establish a new genus for these species; and the name proposed is *Synclavella*.

Had the author's acquaintance with the literature of this subject included the case of *Perophora annectens* described by me seven years ago, he would not, perhaps, have been so sure about the necessity of a new genus for his species. In this one species I showed (*Proc. Calif. Acad. Sci.*, Series 2, Vol. IV, p. 37) that "in very many, though not all, of the colonies the ascidiozoöids are as completely imbedded in a common test as they are in *Botryllus* or *Goodsiria*."

This species is exceedingly abundant at various points on the California coast, and one may frequently observe transitional states between social and compound on the same rock, and apparently in the same colony. I may now add that, after having studied them for a number of years, I have about reached the conclusion that the social condition is the usual one; and that the compound condition occurs only occasionally, even in the same locality. At Pacific Grove, for example, where the most perfect instances of the compound phase have been found, I have, on several visits, failed to find any at all of this kind. It is an interesting fact, also, that

¹ Sur des Clavelines nouvelles (*Synclavella n.g.*), constituant des cormus d'Ascidies composées, *Comptes Rendus*, No. 21, May 21, 1900, p. 1418.